378.73
El74c

The College, Past and Present.

* * *

BY M. J. ELROD,
Professor of Biology in the University of Montana.

THE LIBRARY OF THE
SEP 19 1933
UNIVERSITY OF ILLINOIS

* * *

Bloomington, Illinois.
The University Press, 1899.

LIBRARY U. OF I. URBANA-CHAMPAIGN

Digitized by the Internet Archive
in 2018 with funding from
University of Illinois Urbana-Champaign Alternates

https://archive.org/details/collegepastprese00elro

378.73
E174c

THE LIBRARY OF THE
SEP 19 1933
UNIVERSITY OF ILLINOIS

THE COLLEGE, PAST AND PRESENT.

ITS EFFECT ON BUSINESS AND THE PROFESSIONS.

The report of the United States Commissioner of Education* gives the following statistics for the year closing June 30, 1895, which are of interest to all engaged in educational work:

Total number of pupils enrolled in schools and colleges, public and private, in the United States, 15,688,622, an increase of 158,354 over the previous year. Number in schools supported by public funds, 14,280,070; the number in private schools, 1,408,552. In business colleges, trade schools, conservatories of music, schools of art and elocution, schools for delinquent and defective classes, Indian schools, evening schools, etc., 400,000—making a grand total of 16,100,000.

The total population for the year is estimated at 68,748,950, or four and one-fourth inhabitants for each pupil.

The number of universities and colleges for the year is 481, of which 343 admit women to the undergraduate departments, leaving 138 in which a college course is denied to them; 58 of which are under the control of the Roman Catholic Church. So far as known, this church has not opened any of its higher institutions of learning to both sexes. Since 1890, 49 institutions have been opened.

The total number of professors and instructors reported by the 481 institutions is 11,582, of which 10,040 are men and 1,542 are women. The total number of students in all departments was 139,939, divided as follows: preparatory, 30.8 per cent.; collegiate, 42.3; graduate, 2.9; professional, 15.7; others, 8.3.

Of the 63,402 students reported as being in the collegiate departments only 48,324, or 76.2 per cent. were reported as leading to a first or bachelor's degree. In other words, 7 per cent. of the population were enrolled in college courses leading to the bachelor's degree, and but 3 per cent. of the entire school attendance.

---

*Report of Commissioner of Education for 1895.

In addition to the above report there were in that year 596 professional schools, with 6,836 instructors, 53,552 students, and 13,159 graduates, distributed among the professions as follows:

Class of Schools.	Schools.	Instructors.	Students.	Graduates.
Theological	149	906	8,050	1,598
Law	72	604	8,950 *a*	2,717
Medical	151	3,909	22,887 *b*	4,827
Dental	45	968	5,347	1,297
Pharmaceutical	39	317	3,859	1,067
Veterinary	9	132	474	155
Nurse Training	131	...	3,985	1,498
Total	596	6,836	53,552	13,159

a, 65 women; *b*, 1,413 women.

In other words, there was one professional graduate for every 1,284 population, and one medical graduate for every 2,500, or one for every 560 families in the United States, in addition to the number already on hand. The percentage of college graduates is given only for theological schools. Of the 8,050 students in attendance, 2,354 or 29.2 per cent. were college graduates. The percentage in the other professions is undoubtedly much lower.

Let us glance for a moment at the different professions, see how many college graduates are in them, and note some opinions of prominent men as to the value of a college course in business and professional life. First as to business:

Mr. Andrew Carnegie, in the *New York Tribune*, says a college course unfits a man for business, and that he can find scarcely a trace of the college man. That college men have not the slightest chance, entering at twenty, against the boy who swept the office, and that the facts prove it. Mr. Carnegie is not a college man himself.

Mr. Henry Clews is more emphatic, and says he employs no college men in his bank, and that none need apply, as they are wholly ignorant of business methods. He, likewise, thinks it is the office boy who is successful. Mr. Clews is not a college man.

Prof. Winthrop D. Sheldon has analyzed the opinions and statements of these men, and has accumulated a good deal of evidence on the other side.* He contends that there are different meanings to the word successful as applied to business. Those who amass money are put in one category, and in another those who put into their business intelligence, mental training, and breadth of thought.

---

* New Englander and Yale Review, March, 1892.

We mention some of the opinions favorable to college men mentioned by Prof. Sheldon. President Seth Low says, and he is a prominent business man, and former railroad manager, "That for the purpose of railroading a college-bred man was a thousand years ahead of the person who had no such training." A former president of the New York Stock Exchange, long a banker upon Wall street, later president of the Western National Bank of New York city, himself a college graduate, says in *North American Review:* "The day has passed when bad spelling could be considered as indicative of a plethoric bank account." James W. Alexander, a Princeton graduate and Vice-President of the Equitable Life Assurance Society of New York, said: "Who can doubt that the boy who has within him the germ of some future master in affairs will be all the more of a leader by reason of a thorough college education, and even that he will outstrip in the mere matter of time the boy whose only training was sweeping the shop or adding up columns of figures at a desk?" Mr. Charles L. Colby, a graduate of Brown University and President of the Wisconsin Central Railroad, says: "If two men of equal ability start together in the race, one an educated man and the other without college training, the college man will win every time in the long run." Daniel Heald, a Yale graduate and President of the Home Insurance Company of New York, says: "I believe the success I have attained in the world is directly due to my college training." Gen. Brayton Ives, a Yale graduate, says: "I can trace every step in my own career to the influence of my college course." Says Chauncey M. Depew, a Yale graduate: "It is the old question of the trained boxer, runner, athlete, debater, soldier, as against unskilled strength and courage. Whatever the popular delusions, in the trials there never has been but one result."

It is well known that the proportion of college students to the population has been increasing of late years. Since the percentage of the population attending college is so small, it will be of interest to discover what the chances for college graduates as compared with others, may be for success in life. I beg, therefore, your indulgence while I offer a few more statistics.

President Thwing has had made an examination of the six volumes of Appleton's Cyclopedia of American Biography, in which are sketches of 15,142 persons—Americans. Each name in this set of books has been studied with the view of finding something in regard to the value of a college education for success in life.* Of the 15,142 men named in these volumes, 5,326 are college men, or slightly more than one-third. Of them also 941 are what may be called academy, but not college men. He estimates that there has certainly not been more than two hundred thousand American college graduates from the beginning until now. The number may be nearer one hundred and fifty thousand. Of these, five thousand, or one in forty, have done well, and have deserved and earned a monument more or less permanent. There have been at least a hundred millions of people who have come and gone on this continent since the first college graduate stepped before the world, who have not had a college training. Out of these hundred millions only ten thousand have so wrought as to deserve to have their names commemorated in this biographical encyclopedia. Ten thousand out of ten thousand times ten thousand, or one in ten thousand. Compare this with the one in forty college graduates, and it tells its own story. A few of the percentages are as follows: pioneers and explorers, 3.6 per cent.; artists, 10.4; inventors, 11; philanthropists, 16; business men, 17; public men, 18; authors, 37; statesmen, 33; physicians, 46; lawyers, 50; clergymen, 58; educators, 61; scientists, 63.

Prof. Winthrop D. Sheldon has accumulated some statistics in regard to the success of college graduates. He refers to a list made by James W. Alexander, of sixty-five college graduates, prominent in business circles and selected at random mostly from New York and vicinity. The list shows fifteen railroad officials, six of them railroad presidents, eighteen bankers, ten manufacturers, ten merchants, seven heads of prominent trust and insurance companies, and five heads of leading publishing houses.

The following is a partial list of the names given by Prof. Sheldon of those among college graduates who have been eminent in *business*: Alexander T. Stewart; John Jacob Astor; Gen. Joseph R. Hawley, who was president of the commission of the management of the Centenial Exposition at Philadelphia, as also the Director-General A. T. Goshen; ex-Senator Palmer, president of the commission in charge of the World's Columbian Exposition; Eli Whitney; Prof. Morse; Daniel Bushnell, the inventor of the submarine torpedo; Edward Burgess, designer of the yachts Puritan, Mayflower and Volunteer; Alexander Lyman Holley, who introduced the Bessemer process into this country; Charles F. Brush, the father of the arc electric lighting of the world, and Henry Richardson, the architect.

---

* Within College Walls, chapter on the College Graduate.

Horace Greeley said he would as soon have a lot of horned cattle in a china shop as college graduates in a newspaper office. But his practice belied his preaching, and when he died the *Tribune* passed into the hands of a college graduate. Among other newspaper men may be mentioned Nathan Hale, Joseph R. Hawley, Charles Dudley Warner, James G. Blaine, Henry B. Anthony, William Cullen Bryant, James Brooks, William Bross and Joseph Medill, of *Cicagoh Tribune*, George D. Prentice, Henry W. Grady, and a long list of others.

The last ten-year book of Cornell University contains a suggestive classification by occupation of the graduates of the first twenty years of its existence, showing the different occupations that are taken up by graduates. From this it appears that forty-five have engaged in agriculture, fifty-one in architecture and building, five in art, twenty-three in banking, eleven in chemistry and assaying, eighty-eight in civil, electrical or mechanical engineering, 246 in education, sixty-one in journalism, 235 in law, twenty-five in manufacturing, sixty-five in medicine and surgery, 115 in various mechanical pursuits, thirty in the ministry, five in publishing, twelve in scientific investigation, and sixty-five in special study.

It appears that about twenty-five per cent. of the graduates of the eastern colleges adopt a business career. Prof. Sheldon pertinently remarks that Mr. Carnegie must have been gazing at the mountains and craters of the moon, inquiring and searching there, when he asserted the "total absence of the college graduate in every department of affairs."

Let us glance for a moment at politics. It is a fact, noted and commented on by many, that few men of liberal education are willing to resort to the wire-pulling, scrambling for office, chicanery and corruption by which political preferment as a rule may be obtained. College training makes such methods abhorrent. It is unhappily true that this condition of affairs keeps out of public life many men of energy and ability, who are controlled by such a high sense of honor and duty that such methods can not be tolerated, and the field is left for others less scrupulous in their ideas of right and justice. Indeed, it is well known that the office does not seek the man, but the man the office. The "machine" has so long been the dominating power in politics that people have come to believe that men of very ordinary abilities are able to handle questions of the greatest national importance and interest. So prevalent is this opinion that when there is a choice between two men, one of whom has been schooled and trained in lines which will permit him to grapple intelligently with the problems, the other a man without such training, the latter has the better chance of success.

Prof. Sheldon mentions many other conditions and influences which in recent years have tended to make the college-bred man a less significant factor in political life than in those old days, which Von Holst describes as "the transfiguration splendor of the revolutionary epoch." And yet, cut out of our political history those pages which record the influence and work of the graduates of our universities and colleges, and it will be found that what is most valuable, most beneficent and most enduring, has been to a very great extent eliminated.*

At the time of the Revolution there were 2,500 college graduates. Of the fifty-six signers of the Declaration of Independence twenty-seven were college graduates, and fifteen more had a classical and liberal education. Of the committee of five, who drafted the Declaration, three were college educated. Of the fifty-five members of the convention of 1787, which framed the Constitution of the United States, at least thirty-five had a college or classical or liberal education.

---

* The College Bred Man in Political Life. New Englander and Yale Review, April, 1891.

The three plans presented for the reorganization were presented by two college men and one of liberal education. These plans were referred to a committee of five, two of whom were college graduates, and one who had taken a course in part. They were referred for final revision to another committee, all of whom were college graduates.

Of our twenty-four Presidents sixteen were college graduates. Of twenty-four Vice-Presidents thirteen had a college education. Of the thirty-six candidates for the presidency who have received votes in the electoral college twenty-one were college graduates, and of the fifty-seven similar candidates for the vice-presidency thirty-five had a college education.

The eight Chief Justices were college graduates except John Marshall, whose life at William and Mary was interrupted by the breaking out of the Revolution. Of the fifty Associate Justices, up to 1891, thirty-six had received a college education, and about two-thirds of the United States Circuit Judges. Of the thirty-three Secretaries of State twenty-four were college educated. Of the thirty-seven Secretaries of the Treasury twenty-two stand in the list of college men. Of forty Secretaries of War, twenty-four; of thirty-three Secretaries of the Navy, seventeen; of thirty-two Postmasters General, sixteen; of seventeen Secretaries of the Interior, twelve; of forty Attorneys-General, twenty-eight.

The following table will be of much interest as showing the representation of leading colleges in the political field.*

	Harv.	Yale.	Prince.	W. & M.	Penn.	Col,	Brown.	Total.
Presidents of U. S	2	...	2	5	...	...	...	9
Vice-Presidents of U. S.	3	2	2	2	...	2	...	11
Cabinet Officers	17	19	21	13	4	4	2	80
U. S. Ministers	23	22	13	14	2	16	4	94
U. S. Senators	31	52	54	26	7	4	19	193
Del. and Mem. Congress	162	189	153	64	18	39	45	670
Chief Justices U. S.	...	1	1	1	...	1	...	4
Associate Justices U. S.	4	5	5	3	...	1	...	18
U. S. Circuit Judges	5	3	...	...	...	3	...	11
Dist. and other U.S. Judges	21	24	19	10	6	4	3	87
Judges Highest St. Courts	114	177	97	55	8	21	34	506
Governors of States	32	41	32	23	6	6	16	156
Total Polit. and Judic.	414	535	399	216	51	101	123	1839

The three professions, theology, law, and medicine will be treated together. The position and influence of the college man in the profession of teaching is too well known to need emphasis. So important is he considered that few reputable high schools are without one or more teachers, or even all who are college graduates.

---

*New Englander and Yale Review, April, 1891, p. 322.

The other three professions show some interesting statistics. Indeed, the statistics show that the condition of the medical profession and of the graduates from year to year is such as to demand more than passing notice, as the percentage of college graduates entering the profession is perceptibly diminishing, in 1884 amounting to but 3.1 per cent. and in 1894 the numbers not being given, though all other professions and technical schools have numbers from which the percentage can be estimated. This decline demands the close scrutiny of the men in the profession, as it indicates a decline rather than an advance, which is not in accord with the progress made by this noble profession. The law is not much better, showing a similar decline, though the percentage is much higher. This retrogression, at a time of more liberal range of elections in college courses and at a time when in all other professions and in various lines of business the demand is for more training and greater skill, is not to be looked on without alarm.

President M. B. Anderson, of the Rochester University, in the Report of the Commissioner of Education for 1884–85, is quoted as saying concerning the University of the Nineteenth Century: "It is a sad fact that the most depressing influences bearing upon college education in our country come from the schools of physical science, law, and medicine. Among professional schools, those of theology alone steadily encourage and support higher education. It may be worthy the attention of all well-educated lawyers and physicians that, while the average standard of education for all other classes in society is constantly rising, the standing of these two noble professions is, on the whole, going relatively downward. The large income returned by teachers of law and medicine is not seldom a measure of this depression. In most European countries Government remedies the evil tendency to which we have referred by stringent enactments. The reason why the higher institutions of learning in most European countries are so thronged with students, is due to the fact that no school master can teach, no lawyer or physician can practice without the best education, both general and professional, which the country can afford. It is not my purpose to point out the remedy for these evils. I only wish to call attention to their existence."

J. C. Hutchinson, of Monmouth, Ill., expresses the view of hundreds of others* that a college education is a necessity to the highest success in any business or professional career. That the mental power and activity acquired in the pursuit of a college course gives the doctor, the lawyer, the railroad president, the banker, the business man, an advantage over his competitors which can not be estimated. The preparation needed for this mental development can not be done in the mere professional school, the law school, medical college, divinity hall, or normal, and that these can not take the place of the college, but supplement the work of the college. He contends that the best lawyers, physicians, theologians, and teachers, other things being equal, are those who have first received their bachelor's degree, and then a diploma from the faculty of law, medicine, theology, or pedagogy.

The following table is self-explanatory, and speaks volumes.

	1879.		1880		1884		1894.		
	Total Number.	Per cent. of those having a bachelor's degree.	Total Number.	Per cent. of those having a bachelor's degree.	Total Number.	Per cent. of those having a bachelor's degree.	Total Number.	Per cent. of those having a bachelor's degree.	Av. per cent.
Theology	4362	30.6	5093	26.4	5486	23.9	10041	45.	31.47
Law....	3018	25.2	3134	24.1	2855	22.1	8934	12.1	20.87
Medicine.........	9522	8.2	9876	7.9	11048	3.1			4.8

This table is not as accurate as it should be, from the fact that many institutions do not report the number of students who have college degrees. Another computation, by Dr. Charles McIntire, and read before the American Academy of Medicine, in 1882, gives the record of fifty-eight of the leading colleges of the United States from their origin to the year 1881.† This varies somewhat from the preceding, but gives the same story.

---

* Proceedings of the N. E. A., 1890, p. 702.

† The Percentage of College-Bred Men in the Medical Profession. A paper read before the American Academy of Medicine, October 27th, 1882, p. 5.

Number of Colleges.	58
Number of Graduates	38,054
Number in Medicine	3,577
Per cent. in Medicine	9.2
Number in Theology	99,91
Per cent. in Theology	21.0
Nmnber in Law	6,165
Per cent. in Law	19.7

THE COLLEGE, PAST AND PRESENT.

THE COURSE OF STUDY.

As it thus appears that the college graduate is the leavening that is putting life into business enterprises, politics, the pulpit, the bar, the school room, the architect's office, the judicial bench, and the physician's closet, it is worth while to look into the courses of study that are being offered the youth of to-day, and note some of the opinions of men in regard to what should be offered. Let us first look into the work required of students and offered to students in a few of the leading institutions, following this with suggestions of needed changes as indicated by leading men of the country.

The average institution requires for admission to the college three years of work above the eighth grade, more rather than less, though a few have less. There is much variation as to the character of the work required, but in general it may be divided into Mathematics, English and History, Language, and Science. Colleges may be divided for convenience into two classes: Those which have one set of requirements for admission and one course, and those which have several courses and different requirements for admission to each. The University of Kansas is an example of the former. The University of California of the latter, which is much the more common.

Although there is great lack of uniformity among colleges as to requirements for admission, there is still greater difference in the studies and courses offered to the student after he is once admitted to the Freshman class. Each faculty is a law unto itself in this matter. They may throw down the bars for the admission of students, seeking numbers above all else, or they may close the avenues tighter so

LIBRARY U. OF I. URBANA-CHAMPAIGN

as to prevent so many admissions and get a higher grade of work. During the past decade the college curriculum has been given much attention at the hands of the different faculties, and the evolutionary development is still going on. The change has been from the course in which everything was prescribed, and which still occasionally prevails to a great portion of the course, to the course in which everything is elective, in one sense, as in Cornell and Leland Stanford. In other words, the tendency is toward greater liberality, permitting the student to specialize earlier in the course, and giving him the opportunity to select a course which will best fit him for the profession he may have chosen.

In the Yale catalogue, 1896-97, the work of the Freshman year is prescribed entire. There is a choice of five out of six courses in the Sophomore year. In Junior year one-fifth of the work is required, in Senior year one-seventh.

The Harvard catalogue, 1896-97, shows that Rhetoric and a modern language are prescribed in Freshman year—unless both German and French are offered for admission. In the Sophomore year Themes and Forensics are required. In Junior and Senior nothing is prescribed.

In the University of the State of Missouri the work is prescribed for the Freshman, Sophomore, and three-fourths of the Junior. The remainder is elective.

The 1897-98 catalogue of the University of Pennsylvania prescribes the work in Freshman and Sophomore years, save that the student is given his choice of two languages. In Junior class five hours out of eighteen. In Senior all is elective.

The college work for Johns Hopkins, as shown by catalogue for 1897-98, is outlined in groups. There is required of each student work in Rhetoric and English, and laboratory and lectures in some science. Aside from this the student may select his group. It is practically the same as prescribing seven courses for one degree, as this is the number of groups offered.

John B. Stetson University, of DeLand, Florida, 1896-97, requires all of Freshman year, gives an option of Language or Mathematics in Sophomore, and requires two-thirds of Junior and Senior work.

The University of Illinois, 1896-97, presents to the student two plans of work: The general course, and the specialized course, or group system. In the general course the whole of the work is laid out for the first and second years. The third and fourth years are elective. In the specialized course the student selects the subject which he desires to make his major work and pursues that group. All the honors and special privileges are accorded the special students.

The 1896-97 catalogue of the University of Kansas presents a plan almost the direct opposite of that of Illinois. Whereas Illinois offers special inducements to students in special work, Kansas will have none of it, and does not permit a student in his last two years to take more than four terms of work, two years, in one department or under one instructor. The first two years' work are prescribed, the last two are optional. Later we shall show how the men in science view this plan.

The University of California, 1896-97, requires of all students for graduation one hundred and twenty-five units, distributed as follows: Sixty-five prescribed, thirty elected from any one advanced subject or two cognate subjects, and thirty free electives.

At Drake University, Des Moines, 1897-98, seven-twelfths of the four years' work is required.

The University of Wisconsin, 1896-97, like the University of Illinois, offers students choice of both the general course system and the group system or special course. In the former seven courses are offered, one leading to B. A., three to B. L., and three to B. S. In the latter there is offered work in eleven groups. The student is thus given his choice of eighteen courses. In the work of the general course system the first, second, and one-third of the third years are required. In the groups, naturally, the work is more or less definitely outlined, though much latitude is allowed in the selection of studies of minor importance.

The University of Minnesota, 1897-98, offers three courses, Classical, Scientific, and Literary. The prescribed work differs in the different courses, but the average is, in Freshman five-ninths, in Sophomore four-ninths, counting an option between two or more subjects as an elective, with Junior and Senior entirely elective.

At Cornell, 1897-98, those entering the Freshman class have the entire work elective except as regards military drill, gymnasium, and the thesis.

At Leland Stanford the student on entering specifies what work he wishes to pursue, and his proficiency for carrying on that work is investigated. He is turned over to the professor in whose department he wishes to do most work, and this professor acts as his adviser, and with the student arranges the work to be pursued.

The catalogue for the University of Montana, 1897-98, offers work leading to three degrees, B. A., B. S., and Ph. B. Each of these calls for the completion of 32 courses, each a half year of four hours of lecture or recitation per week. Ten courses are required of all students alike. There are eight free electives, the remainder being partial electives from cognate subjects along lines chosen, or in a few cases special required subjects for a particular degree.

These few examples give an idea of the diversity of opinions ruling in the different colleges and universities in the country, and show, as before mentioned, a growing tendency toward greater liberality in the choice of subjects. There is also a growing tendency to offer but one degree for work done, no matter what its nature. This is already the plan of Johns Hopkins, Harvard, Leland Stanford, University of Kansas, University of Illinois, and others, and Cornell follows in 1901. There is also a growing tendency toward making preparatory courses leading to the professions of law, medicine, as well as theology, though this latter profession now leads all others in the number of college graduates who take up the study.

We are in an age of specialization, and there is no use to deny the fact or escape the burden it brings to us. The time is long past when one can be proficient in half a dozen different lines, as was formerly the case. He who hopes to do anything must make a choice of work and prepare for competition with hundreds of others who have also given special thought and study to the same line. To confine a student to lines in which he has no interest and in which he can find no pleasure, when he has decided to be a physician, is detrimental to the student's best good, and will drive him from the course and to one where the chosen work can be found. It is indeed strange that there is such diversity of opinion among learned men as has been here indicated. It shows plainly that in our educational system it is impossible to remove the shackles that have bound our feet for hundreds of years. It is argued, because the old system produced such great men as the past has presented that there is no better, and it is of no use to change. What we took is what we think others should take. We apply the scientific method to every thing else, but when it comes to education tne method will not work. Whoever introduces a new idea or a new subject is called a crank, and the subject a fad, and it is dismissed without so much as an investigation into its scientific merits. The cry when something new is suggested is that the course is now full, and there is no room for more without removing some, which must not be done. The day will come, and is coming fast, when every subject in the college curriculum will be carefully considered as to its educational value in the broadest sense of the term, whether the subject be an elective or a required one, whether it be now in the course or only contemplated, and the course will be planned accordingly. But in this case there obviously must be many courses in each college or university, if the college is to measure up the demands that will be made upon it. We are already at a point where we must admit that all subjects have disciplinary value and culture, and that he who picks out a chosen few and points to them as the culture-making subjects will have to take a back seat.

From what has been given it is plain that college faculties are not a unit in their ideas of what is needed in an education. And since the courses are so varied let us see what are the opinions of a few of the leading college men as to what should be required.

John Brisben Walker, though not engaged in college or university work, has attacked the system as it is to-day, and by so doing has produced a series of articles on the subject from men whose opinions are worth hearing. In Mr. Walker's scheme of education there are nine groups, in the order of their importance as follows: First, wisdom; second, life; third, science; fourth, language; fifth, accomplishments; sixth, business preparation; seventh, citizenship; eighth, the arts; ninth, manual training. Mr. Walker makes these strictures on our present educational system. A college graduate is not instructed in the choice of a profession. He is not given such a knowledge of men and women through lectures as to enable him intelligently to select a life helpmate, in other words, a wife. Voice culture is omitted. Physical training is not given the importance it should have. The college student is not taught relative to his own constitution, and is helpless in disease. Some of the eminent men who answered his questions, and advanced others in so doing are quoted.

Timothy Dwight, the venerable and beloved president of Yale, says,* "In any future development of the college system the chief purpose of general culture should not give way or be subordinated to any purpose of special culture with a view to some special work in future years." This is the key note to the policy of Yale. This general culture is to be obtained through the study of the classics, the requirements for graduation, including that required for admission, of nine or ten years of Latin and Greek, with not one required term of science, either for admission or in the college course. Prof. Williston of Kansas calls it "the best type of non-utilitarian education in America." President Dwight further says, "The distinctive work of a college is to develop thought power in those who come to it for the education which it gives." All agree with him in the statement, but there are those who radically disagree as to the manner in which this development may be brought about, and the subjects which produce the desired results.

President E. B. Andrews, now superintendent of schools in Chicago, writing when he was expected to take charge of the Cosmopolitan University, criticises the college course severely in that it offers much in language and mythology that is not only useless, but is actually damaging in its effect on youth, and deprecates the unpractical character of so much that is laid down in the college curriculum.† His substitute would not be a school of technology, but a seminary for liberal training. The new college course must not be amorphous. To be thorough, collegiate education must give a large play to the principle of election in studies. But the course must be an elective *system*, not an elective chaos. His innovations would be three: I. Unprecedented emphasis upon thoroughness, logic, and system in all the studies pursued. II. Unprecedented emphasis upon moral character and conduct. III. Biology in the largest sense instead of Latin and Greek.

---

*The Cosmopolitan, August, 1897.

†Cosmopolitan, September, 1897.

Professor Peck, of Columbia, is the most violent opponent of the new university consulted. He is unalterably opposed to the introduction of anything in the college course except the classics and the humanities. Men who have taken such a course he calls gentlemen and scholars, others he calls sublimated types of tinkers. He would have an educated caste, an aristocracy of intellect, "to drive in harness the hewers of wood and drawers of water, who constitute the vast majority of the human race." He is opposed both to the election of subjects and the education of the masses. He says:*

"The fact is that so far from adding to the subjects now included in the university curriculum, we should instead diminish them. The present craze for making that curriculum a common dumping ground for every possible variety of instruction is the most unfortunate of all the tendencies that are visible in educational theory to-day. As we have imitated the Germans in so many things, it is a lasting pity that we have not seen fit to imitate them also in excluding the teaching of the purely mechanical arts from university instruction and in shutting them off into the polytechnicum, where they properly belong. When machine-shops and factories and all the paraphernalia of the applied sciences are imported into the academic shades, and when the perfume of the Attic violet is stifled by the stenches of the chemist's crucible, the true purpose of the university is forgotten, and its higher mission is in a great measure sacrificed; for then there can no longer exist a distinct and definite type of university man." It is impossible to tell how many there are who hold the same views, but it is certain that there are many.

Grant Allen, an Oxford classical graduate, and a writer well known in both hemispheres, takes almost the directly opposite view as taken by Professor Peck.† He says, "As a beginning, then, I would say, negatively, no Greek, no Latin, no French, no German. Education ought certainly to include for everybody, man and woman alike, some general acquaintance with the following subjects: Mathematics, Physics, generalized Chemistry, Zoology, Botany, Astronomy, Geology, human History, and especially the history of the great central civilizations, and the human Arts." Further he says "A father who has sons and daughters of the proper age to go to college will do better by his children, and not less economically for himself, if he sends them for two years to travel in Europe than if he sends them for three years to an American or English University." If all the educators would place themselves in line with Professor Peck or Grant Allen it certainly would be very difficult to strike the golden mean.

---

*Cosmopolitan, July, 1897.

†Cosmopolitan, October, 1897.

The two gentlemen just quoted assume that all people must be educated about the same, and that the same subjects will produce the desired result, no matter what the soil. Charles W. Dabney, Jr., President of the University of Tennessee, very pertinently remarks,* "The harmonious and equitable evolution of man does not mean that every man must be educated like his fellow. The harmony is within each individual. That community is most highly educated in which each individual has attained the maximum of his possibilities in the direction of his peculiar talents and opportunities." But President Dabney does not like the idea of a young man with only the elements of an education taking up a special course in Natural History or Engineering. The all too common product of this course is that intellectual deformity which we call a crank. He says "The scientist may know the life history of a hundred bugs, but he is a dangerous scientist if he does not know the history of his own race. The engineer may have a wonderful command of the higher mathematics, but he is a very useless engineer unless he knows how to use his own language. From such colleges as this we are already getting chemists who believe that nothing exists which they cannot dissolve, precipitate, and weigh in the balance; biologists who believe that nothing lives which they cannot fry in parafine, slice in thin layers, and examine under the microscope; and engineers who believe that nothing has value which they cannot calculate in dollars and cents, or that any force exists in the universe which they cannot measure in horse-powers, foot-pounds, or electric ohms. If this condition continues, where will we educate the future thinker, man of affairs, teacher, preacher, or statesman? Our colleges should refuse to admit young men to the special scientific or engineering courses until they have the elements of a liberal education. Our criticism of the old college was that while it provided a certain intellectual discipline which produced magnificent results in some instances, it provided no training for the physical man and the senses with which he should study nature. Our criticism of the new college is that it has too often gone to the opposite extreme and neglected the training and furnishing of the mind in its zeal to train the eye and hand. Both systems have failed to give due attention to man's moral nature—to character building."

---

*The Old College and the New, an address delivered at the commencement of the Virginia Polytechnic Institute, June 24, 1896. Privately printed.

Professor Lawrence A. McLouth regrets that those who have contributed to the discussion in the Cosmopolitan pay so much attention to the virtues of the present college course and so little to its faults.* He would leave the old education which spent so much time in idolatrous contemplation of lying characters, and study *things*, nhich cannot lie. He would have every study in the college curriculum weighed in the balance of usefulness in the most liberal sense of the word. Ah, there is the rub! Who is to do the weighing.

President Jordan, of Leland Stanford, is the exponent of liberal choice of work in the extreme, as has been before mentioned. President Jordan says† "That training which does not disclose the secret of power is unworthy the name of education." A curriculum made up of the sciences and modern literature with most men will develop the reasoning powers to a higher degree than one in which the study of Latin and Greek is the chief factor. He holds that each student should be educated for himself in his best way and that any *curriculum* not involved in the nature of the subject is a hindrance and an impertinence.

---

*Cosmopolitan, December, 1897.

†Cosmopolitan, March, 1898.

Prof. Joseph Whitely says,* "The higher conception of culture is to do as well as to learn—largely to learn by doing."

Professor Huxley says, "It is folly to continue, in this age of full modern artillery, to train our boys to do battle in it equipped only with the sword and shield of the ancient gladiator."

Prof. S. W. Williston, of the University of Kansas, in his presidential address before the Kansas Academy of Science, severely arraigns the course of study in that institution, and expresses himself rather forcibly as to the results upon the graduates of that institution. He makes the statement † that among the graduates of the University of Kansas of his acquaintance not more than half have had any training whatever in the natural sciences, with the exception of about ten weeks in physics and as many in chemistry, and perhaps a smattering of physiology. The simplest facts in natural history are as utterly unknown to them as the prosody of the Hebrew language. A little, very little, of biological science has been absorbed in the reading of fiction, of history, and the newspapers. He verily believes that a third of the graduates in arts in our universities, and a fourth of their instructors, could not tell whether the pancreas is located above or below the diaphragm, or whether or not they have either pancreas or diaphragm at all. Owing to the great stress put upon the requirement of Latin for the University of Kansas Prof. Williston claims instruction in natural science in the secondary schools of the State is superficial and imperfect in the highest and most astounding degree. He makes the claim, which seems tenable, that it is this condition of affairs, putting stress on one or two subjects, instead of making them all optional, on the same basis, with equally rigid requirements, that is driving young men into professions without taking a college course. They will not pursue such courses, are not required to do so for admission, and by rights should not be.

In this connection it is well to listen to the words of a professor of philosophy. Prof. George H. Palmer, of Harvard, says*: "The popular distrust of specializing is sure to grow less as our people become familiar with its effects and see how often narrow and thorough study, undertaken in early life, leads to ultimate breadth. It is a pretty dream that a man may start broad and then concentrate, but nine out of every ten strong men have taken the opposite course. They have begun in some one-sided way and have added other sides as occasion required. Almost in his teens Shakespeare makes a specialty of the theater, Napoleon of military science, Beethoven of music, Hugh Miller of rocks, Faraday of chemistry, Hamilton of political science. The great body of painters, musicians, poets, novelists, theologians, and politicians are early specialists.

---

*The Utah University Quarterly, Vol. II, No. 4, p. 238.

† Science. New Series, Vol. VI., p. 867.

Listen to a few words from Dr. William T. Sedgwick, of the Massachusetts Institute of Technology: "There may always be two kinds of preparation for professional studies, one germane to the future profession, the other foreign to it, or at least irrelevant. Both kinds, the germane and the irrelevant, are still to be seen. The old-fashioned college still sends men to the medical schools irrelevantly prepared. The elective system, itself the chief monument of the new education, suggests and favors, but does not compel relevancy in preparation for professional studies. The group system compels it."

Let us add the testimony of Victor C. Vaughn, Dean of the Department of Medicine and Surgery in the University of Michigan:† "An experience of more than fifteen years has convinced me that the average graduate of our best high schools does his medical work quite as satisfactorily and intelligently as the average graduate of a classical course in college; while the man who has taken a scientific course in one of our best universities has an advantage over both of the others. For one, I shall be opposed to requiring of our matriculates the possession of a bachelor of arts or a bachelor of laws degree until the courses leading to these degrees in our colleges have undergone some radical changes."

We wonder how some of those here quoted have taken the words of Dr. William Trelease, Director of the Missouri

---

* Pan-American Medical Congress, Vol. II., p. 2,211.

† Pan-American Medical Congress, Vol. II., p. 2,221.

Botanical Gardens, in his address before the Botanical Society of America in 1896, when he says: "However liberal one may be in the matter of electives, it is evident, in most instances, that the student can not afford to devote more than one-half of his undergraduate time to a single study like botany, and in this time he can cover only a definite amount of ground."

It would seem that the discussion of the subject assigned me should not be necessary, yet the fact that it has been so assigned seems to prove that in this great state there are those who need arguments on the necessity of election in studies in higher education. I have given a few quotations from men in different professions — from technical, professional, and other schools; from those who have the classics and those who have science. It is not a contest between subjects, and it is not the intention in this paper to make it so. It is hoped that question is settled for all time. It is a question as to whether in this age of civilization and advancement the present average college course meets the demands of the age, and whether it is based on scientific method.

So far as I know, no one has ever attempted to estimate the number of human beings that have lived upon the earth. There is no data on which to begin work. It is even difficult to make an estimate of those now living. But it is certain that the one and a half billions of people now on this globe are but a handful as compared with the great number that lie beneath the sod. Of this one and a half billions there are no two alike, either in form, features, temperaments, mental capacities, or habits. What the result would be if all these people, in different countries, under different climates, with different necessities, were given the same food, clothing, and intellectual studies, can not be even conjectured. It is so utterly impossible and absurd that no one would entertain the idea for a moment. As well try to force this one plan of clothing, food, amusement, diversion and discipline on people of different climes and nationalities as to put into the hands of tens of thousands of students all over this country, as indeed other countries, the same books treating of the same subjects, in the same manner, appealing to tens of thousands of different natures and temperaments, and expect to obtain a uniform result. The scientific examination of the attempt shows both its uselessness and hopelessness. Instead of devoting valuable time to the relative value of different subjects, let us devote more time to the best method of teaching different subjects. Twenty-nine years ago, in his first public address, his inaugural address as president of Harvard, President Elliot turned aside from the weary debates, centuries old, and which we are still continuing, as to the relative importance of different subjects, and sharply directs attention to the defective methods of organizing and imparting instruction, stating that "the practice of England and America is literally centuries behind the precepts of the best thinkers on education."

There is no doubt but that each foot must be shod in the manner that will best suit it to the work that has been done by it, considering the road that has to be traveled, the load that must be borne, and the distance to be covered. It is the same with a course of study. If the people of the State supply the funds, or if they are supplied by private beneficence, the community has a right to demand that that which is offered should be suited to the varying conditions of different people. I do not argue that there should be absolute freedom in everything. No sane person would be so unwise. There are certain lines that must be pursued in early life to lay that foundation on which is to be builded the superstructure. In many respects the foundations are the same. There are certain lines of work that are conceded without argument to be necessary. Every student must have a good knowledge of his own language, which can be obtained only by the study of English and literature. His language, as well as his memory, needs the training and stimulus supplied by language in some form. Mathematics is indispensable. The student should likewise have a knowledge of what is going on in the world, and what has gone on in centuries past. He should know something about himself and his relations to the world and animate and inanimate things about, and should be taught how to investigate himself, and to observe closely and discriminately. Hence the utility of science. Therefore any student who presents himself to any college or technical school for admission should have this foundation, which some have termed a liberal education. If the same thought has been given the different subjects, if the same enthusiasm is given in the instruction, if the same appliances are had so that the studies are presented with equal force, then the student on being admitted to a college course, or a technical or professional course, is ready to proceed upon special work without further preliminary. But such is not the case, as the preceding testimony certifies. A course with language as the principal feature is not designed to prepare all students for the most efficient work. A course in which all is science is not the panacea for all ills. The technical courses do not offer the way to paradise and an everlasting fortune unless there is something on which this education rests. It will be apparent, therefore, that my personal view is thorough and efficient training in different lines as mentioned, for admission to any course in any institution. Not that the subjects taken must of necessity be the same, but that there should be a high standard which all should meet for entrance either to a college, technical, or professional course. Undoubtedly the course in a college or university which is based on scientific method is that offered by the group system. In this a student is not only given his choice of subjects and work, but he is also given those cognate subjects which are a necessity to fit him for the work he has chosen. I predict that this will grow more and more in favor, and that its beneficent results will be more and more noticeable. If this is not possible through smallness of teaching force or inadequacy in equipment, or if a reasonable amount of election can not be offered, the institution is certainly not up to the demands made by the progress of the last half century.

It is argued, in opposition to the elective or group system, that the great majority of students do not know what they want, and are incompetent to make a selection of subjects. This is certainly an argument, but not one that is unanswerable, nor is it one that would of necessity overthrow the system. Those students that have made up their minds what to pursue, and have determined what shall be their life work, are the ones that are known to be the most earnest, the most aggressive, and the most persistent workers, among all that are in attendance. The fact is that the number of students who have chosen a specialty before entering college, or shortly afterward, is no small per cent., and is constantly increasing. This specializing age demands this condition of affairs, and the work of the college should be made to recognize this fact, and to be in harmony with it. There is no more reason in making a college course thus and so because it has been so in the past than there is making a student study by a tallow dip because his grandfather did so. And in regard to those students who have not made up their minds, it is well to observe that the time will come when this must be done, and when a choice of occupations must be made. Is it not wiser to make the selection when there are wise heads in the faculty around him who have studied his temperament, his abilities, his fitness for certain things, and his unfitness for other things, than to leave it until all these are left behind and there is no one to advise?

The great value of the elective system, in one respect, and the group system, is the recognition of individual traits and attainments, and the fact that it of necessity compels the student to seek the advice of the members of the faculty, and thus discover not only what is best for him, but why it is best for him. In this connection it is well to observe that the new education has brought new duties to the members of faculties. They are now compelled to study the different students, to advise with them, and help them start aright in their course and in life work. Hence the value and necessity in distributing the students among the different professors for advisement, as is so prevalent now among colleges and universities, instead of taking turns for enrollment with one man, who can not of necessity understand all who may come before him, and who can not therefore serve them as well as can those who have them directly in hand, in limited numbers, and who can watch and study daily their natures and habits.

The end is in sight. Already the numbers flock to the new institutions with the new education and the freedom for thought and study. The pace for progress has been set, and he who runs may read. The new institutions, as well as many which have as yet not left the old plan, may well consider this and other questions similar, for it is with these new education colleges and universities they must cope. Success or failure,—not in numbers of students or legislative support, not in advancing the work of and interest in personal departments or special professional or technical schools, but in the acquisition of the highest and best gifts education has for the youth of to-day, to fit this youth for life in different and various occupations, and to give them those educational qualifications which shall place them in the front ranks with those who are making civilization what it is,—will depend upon whether or not they read the signs of the times aright, and profit by the history of the past as it is to be applied to the present.

THE LIBRARY OF THE
SEP 19 1933
UNIVERSITY OF ILLINOIS

UNIVERSITY OF ILLINOIS-URBANA
3 0112 061612393